

ORIGINAL RESEARCH

KNOWLEDGE OF INJURY PREVENTION AND
PREVALENCE OF RISK FACTORS FOR THROWING
INJURIES IN A SAMPLE OF YOUTH BASEBALL PLAYERSCourtney Bohne, PT, DPT, SCS¹Steven Z. George, PT, PhD¹Giorgio Zeppieri Jr., MPT, SCS²

ABSTRACT

Background: Information on baseball injury prevention and pitch count recommendations is growing, however, the incidence of throwing injuries continues to rise. This study is the first to assess knowledge of safe throwing guidelines and risk factors from the perspective of youth athletes.

Purpose: The purpose of this study is two-fold: (1) to evaluate knowledge of safe throwing guidelines and (2) to assess the reporting of risk factors for throwing injuries in a sample of youth baseball players.

Study Design: Survey study of 98 overhead athletes between the ages of 4 and 18.

Methods: A 35-question survey was developed with questions related to knowledge of injury prevention, presence of risk factors associated with throwing injuries, and understanding and compliance with USA Baseball Medical & Safety Advisory Committee (USA BMSAC) overhead throwing guidelines.

Results: Respondents demonstrated variability in their knowledge of the USA BMSAC guidelines related to throwing frequencies. The 13-16 year old age group displayed the least knowledge of USA BMSAC guidelines. The 9-10 and 11-12 year old age groups demonstrated the greatest knowledge of recommended BMSAC guidelines. Eighty-five (82/98) percent of the respondents reported that they had never heard of the USA BMSAC guidelines. Sixty-two percent (59/98) disagreed with the statement, "The more you throw, the more likely you are to get an injury". Fifty-seven percent of respondents (39/98) indicated that they would not seek medical help if they experienced a tired or sore arm during a game.

Conclusion: The results of this study suggest that young baseball players demonstrate the need for education on the following topics: the USA Baseball Medical and Safety Advisory Committee throwing guidelines, risk factors for developing throwing-related injuries, the long-term implications of playing with an injured or fatigued arm, and the benefit of seeking medical help when fatigue or soreness is experienced in the throwing arm.

Level of Evidence: Level 3

Keywords: Baseball, throwing injuries, knowledge

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INTRODUCTION

Despite increased media coverage on injury prevention and the advent of safety guidelines and pitch count recommendations, the number of youth baseball players plagued by throwing injuries continues to rise.^{1,2} According to stopsportsinjuries.org, over the past 15 years, there has been "...a fivefold increase the number of serious elbow and shoulder injuries..." in youth baseball players.³ Furthermore, "Twenty percent of children ages 8 to 12 and 45 percent of those ages 13 to 14 will have arm pain during a single youth baseball season".³ The etiology of throwing related injuries is multi-factorial.^{2,4,5,6} Examples may include: playing multiple positions, pitching with arm fatigue and/or soreness, playing on multiple teams simultaneously, and poor throwing biomechanics.^{2,5,6} In addition, participation on multiple baseball teams, showcases, and year-round play have become increasingly popular with several authors reporting an association between the increased frequency of play and pitching with increased injury rates.^{2,5,6,7} Further, there has been speculation that throwing related injuries that manifest in high school or college are a result of microtrauma accumulated from throwing excessively during childhood.⁶

As an effort to increase awareness of and adherence to pitch count recommendations, youth baseball organizations have adopted policies to govern safe pitching practices. Recently, an internet-based survey was administered to a sample of youth baseball coaches. This survey evaluated knowledge of pitch count recommendations set forth by the 2006 USA Baseball Medical and Safety Advisory Committee (USA BMSAC). As a whole, coaches answered 43% of the survey questions correctly. Specifically, coaches from the 11-12 age group displayed the least understanding of the USA BMSAC guidelines answering only 35% of the survey's questions correctly. Coaches from the 9-10 age group displayed the greatest understanding of the guidelines with an average score of 62% of the survey's content answered appropriately.¹

Although these results are not necessarily applicable to all youth baseball coaches, they serve to raise awareness about the knowledge gap that exists regarding a consensus guideline for safe pitching practices.¹ Because athletes' knowledge of their sport

typically stems from what is taught by their coaches, perhaps this same knowledge deficit is present among youth baseball players. Youth baseball players must be equipped with adequate knowledge on risk factors and safety guidelines so that they can advocate for themselves. Knowledge in these areas would enhance the players' abilities to recognize early signs and symptoms of overuse injuries and to confidently report these to coaches and parents. Additionally, this knowledge can empower players to actively participate in tracking pitch counts and innings/games played, and this, in turn, could foster greater adherence among parents and coaches.

Resources outlining safe pitching guidelines and other injury prevention measures are available; however, the extensiveness of their dissemination and the degree of understanding and adherence to them is questionable. Survey research can aid in identifying areas of strength and deficit in knowledge and in ensuring that information on injury prevention is being relayed to young overhead throwers. The purpose of this study is two-fold: (1) to evaluate knowledge of safe throwing guidelines and (2) to assess the reporting of risk factors for throwing injuries in a sample of youth baseball players. To the authors' knowledge, this is the first study looking at the understanding of safe throwing-related guidelines from the perspectives of youth athletes.

METHODS

Survey Development and Description

The authors created a survey with multiple choice and free response questions that were related to demographics and player knowledge of and compliance with the USA BMSAC pitching guidelines.⁸ Additionally, the authors included questions to assess attitudes about preventive measures as well as prevalence of other pertinent risk factors. All questions were related to the players' experience during the past year. This survey was modified from an original survey administered to youth baseball coaches, published in *Sports Health* 2012.¹ A full copy of the survey is included in Appendix 1.

Sampling Overview

Two hundred and eighty-eight paper copies of the survey were distributed to youth baseball players of

all positions between the ages of 4 and 18. Surveys were distributed through contacts at a local baseball training academy and at local youth baseball organizations, however, the conditions in which the surveys were administered were not controlled. Players were instructed to complete the survey anonymously. Because all data were collected in a de-identified manner, informed consent and approval from an institutional review board were not needed.

Data Entry and Analysis

All respondents were included in the data analysis. Prior to data entry, answers to multiple-choice questions were assigned numbers (i.e. A= 1, B= 2) for ease of statistical analysis. Categories with assigned numbers were also designed for answers to free response questions for ease of statistical analysis. When inputting data, survey questions left blank or marked with ambiguous answers were categorized as unanswered. For free response answers that included a range (i.e. 5-10), the average of the two numbers was used. If the average included a decimal, it was rounded to the next consecutive whole number for the purpose of designating a category. Once answers were converted into categories, they were further classified into whether or not they were deemed a risk factor for developing a throwing-related injury. Answers were deemed a “risk factor” based on findings in related literature.^{1,2}

All data analyses were performed with SPSS version 21.0 (Chicago, IL). Data was reviewed as a whole and by age groupings. Surveys were originally distributed to athletes between the ages of 4-18 years old, however, only completed surveys from athletes between the ages of 4-16 years were received. Age groupings

were based on the age categories designated by Little League Baseball (9-10 years old, 11-12 years old, 13-16 years old).⁹ A group of eight years old and under was created to account for the respondents that were between the ages of 4 and 8 years old. It is likely that athletes in this particular age group received assistance from an adult if they had difficulty reading or comprehending the material. Categorical data were analyzed through frequencies and percentages and continuous data were analyzed through mean, median, and mode. Cross tabulations were used to consider associations between categorical variables.

RESULTS

General Information and Demographics

Ninety-eight surveys were returned (34%) and included in data analysis. Each of the final age groups was well represented in this sample (Table 1). Ages of the respondents ranged from 4 years old to 16 years old. There were a variety of playing positions represented in this sample (Figure 1). It is interesting to note that playing four positions was most prevalent in the younger age groups (8 years and under and 9-10 year olds), however, the 9-10 year old age group was also most likely to report playing a single position. Forty-four respondents (50%) reported that they played baseball for nine months or less during the past year. This was most frequently reported among the 8 years and under age group (88.2%) and was least frequently reported among the 9-10 year old age group (16.7%). The survey revealed that on average, respondents played on more than one team over the course of the past year (2.3) and 53 (55.8%) reported that they did not play another sport in the past year. Only 13 respondents (14%) reported that

Table 1. Distribution of ages of respondents in years

	Frequency	Percent	Valid Percent	Cumulative Percent
Less than or equal to 8 years old	18	18.2	18.4	18.4
Valid 9-10 years old	27	27.3	27.6	45.9
11-12 years old	36	36.4	36.7	82.7
13-16 years old	17	17.2	17.3	100.0
Total	98	99.0	100.0	
Missing System	1	1.0		
Total	99	100.0		

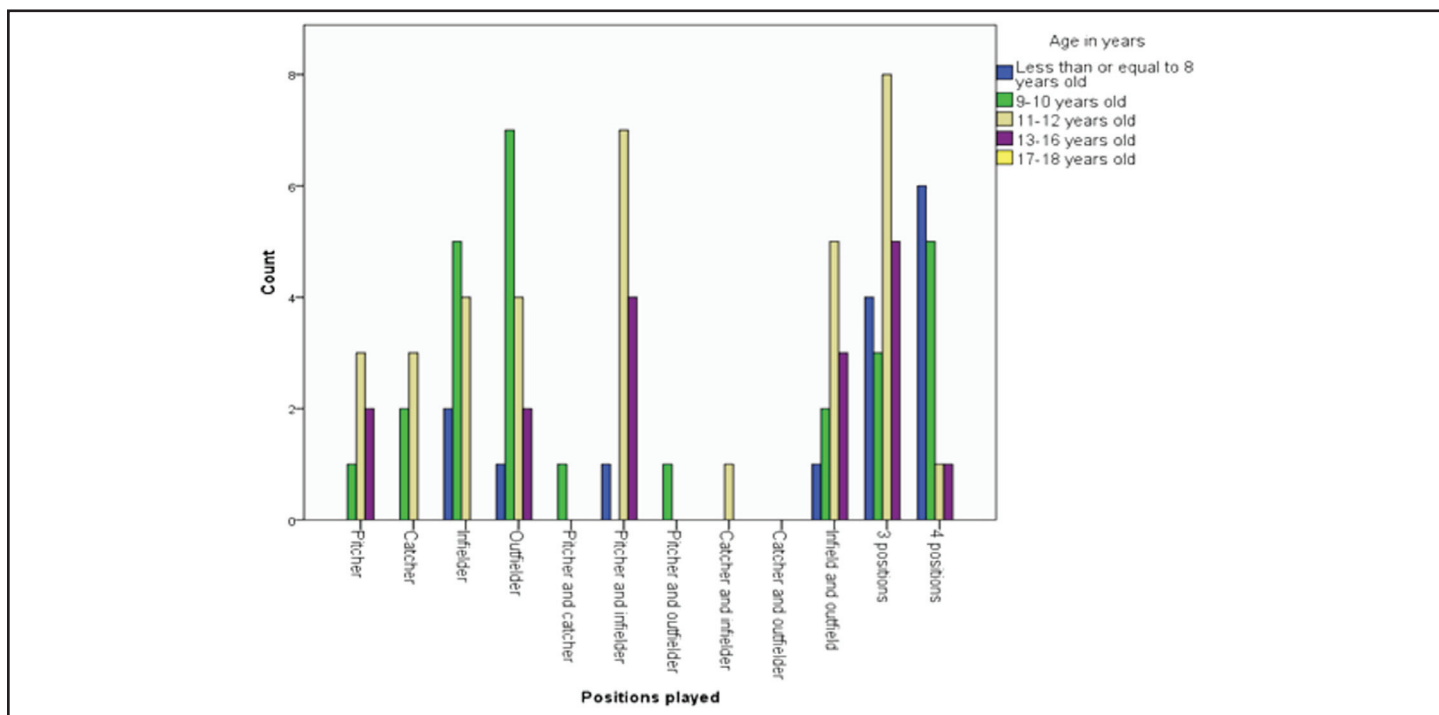


Figure 1. Positions played by respondents age

they had to miss time playing baseball during the past year because of an injury. Among this group, the most common mode of injury reported (57.1%) was categorized as “non-baseball related”.

Attitudes and beliefs about risk factors

Players were asked a series of scenario questions regarding what actions they would take if they got injured during a baseball game. Of these responses, 79 (95.2%) reported that they would tell their coach, 71 (87.7%) reported that they would tell their parent, 53 (73.6%) reported they would see a doctor, physical therapist, nurse, or athletic trainer, and 47 (64.4%) reported that they would continue to play. Similarly, players were asked what actions they would take if they had a tired or sore arm during a baseball game. For these responses, 76 (88.4%) reported that they would tell their coach, 57 (74.0%) reported that they would tell their parent, 44 (61.1%) reported that they would continue to play, and 29 (42.6%) reported that they would see a doctor, physical therapist, nurse, or athletic trainer.

Players were also asked questions regarding their beliefs about injury prevention. Most respondents (68.8%) believed that baseball injuries can be prevented (Figure 2), but less than half (37.9%) agreed

with the statement, “The more you throw, the more likely you are to get an injury”. Further, 58 (60.4%) respondents reported that there should be rules on the number of pitches allowed to be thrown and 82 (84.5%) indicated that throwing with correct form was more important than throwing as fast as possible. Respondents who indicated that throwing with speed was more important were all from the 11-12 year old and 13-16 year old age groups.

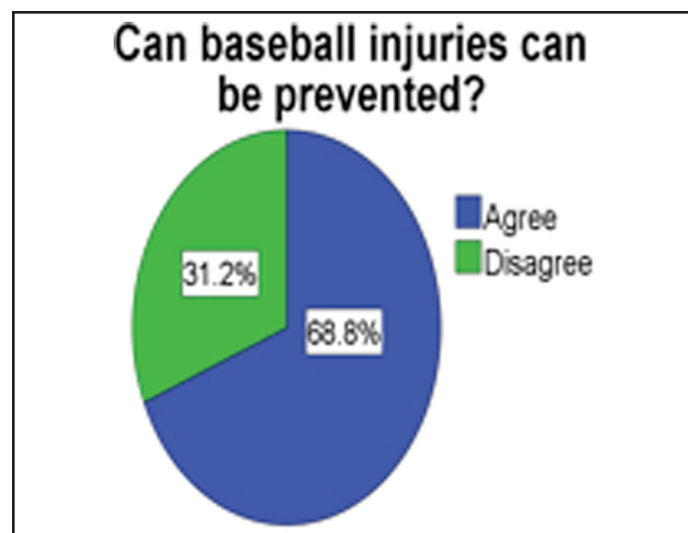


Figure 2. Respondent answers to the agree/disagree question “Baseball injuries can be prevented”

General knowledge on baseball injuries

Eighty respondents (82.5%) indicated that pitching can put an individual at risk for injury and 61 (64.2%) indicated that playing catcher puts an individual at risk for injury. A total of 57 respondents (60.0%) correctly marked that most baseball injuries are non-contact injuries. Of those who chose “contact injuries” as the answer, 22 (57.9%) were from the 9-10 and 11-12 years old age groups. Seventy-six percent of respondents were unable to correctly identify the elbow as the body part that is most likely to be injured while playing baseball (Figure 3).

Knowledge of the USA Baseball Medical & Safety Advisory Committee pitching guidelines

When asked if they have heard of the USA BMSAC pitching guidelines, 84.5% of respondents replied, “no”, 10.3% replied, “maybe, it sounds familiar”, and 5.2% replied, “yes” (Figure 4). Further, players were asked a series of questions involving these guidelines and were instructed to select the answer that is best for players in their respective age group. The 9-10 year old group displayed the greatest knowledge of these guidelines with an average of 41.6% correctly answered questions. The 13-16 year old group displayed the least knowledge with an average of 25.8% correctly answered questions (Table 2). Data was only reported from the 9-10 year old group and older in order to maintain continuity with the 2012 study assessing coaches’ knowledge of these guidelines.

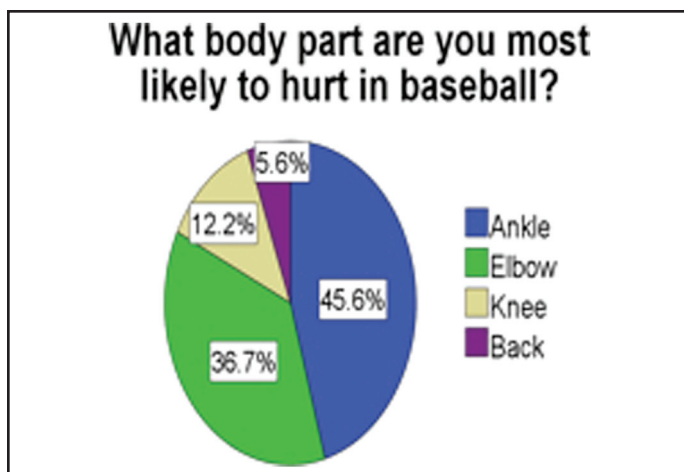


Figure 3. Respondent answers to question: “What body part are you most likely to hurt while playing baseball?”

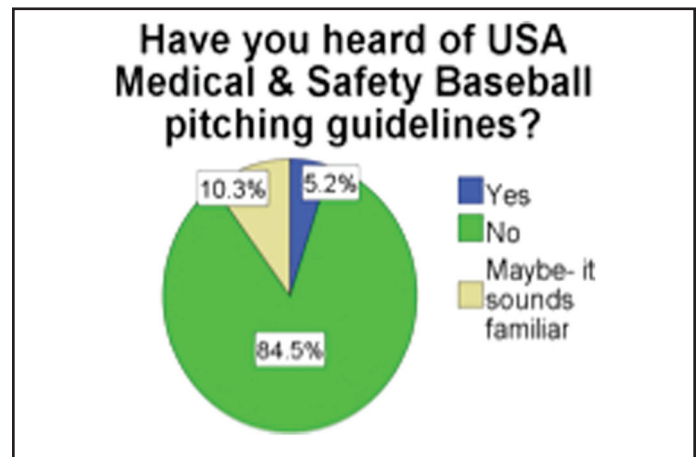


Figure 4. Respondent answers to whether or not they had heard of the USA BMSAC pitching guidelines.

Pitcher Specific Information

Players were instructed to answer a series of questions only if they participated in pitching. Of these respondents, 41 (56.9%) reported that someone keeps track of the number of pitches they throw during games. For those that keep track, 32 (46.4%) reported that they count every game, 9 (13%) reported most games, and 6 (8.7%) reported some games. Overall, 18 respondents (32.1%) indicated that they threw less than 50 pitches per game, 16 (28.6%) reported that they threw 50-75 pitches per game, and 2 (3.6%) reported that they threw 100 pitches or less per game. There was variability in the responses for number of days resting after pitching in a game; 13 (25%) reported that they rested greater than three days, 10 (19.2%) reported three days, 6 (11.5%) reported two days, 11 (21.2%) reported one day, and 12 (23.1%) reported zero days.

DISCUSSION

The results of the current survey revealed that knowledge of safe throwing practices was variable among this sample of youth baseball players. This reflects the variability seen in scores among a sample of youth coaches, however, performances within specific age groups differed.¹ A variety of factors could influence why this variability exists, but it is important to note that the USA Baseball Medical and Safety Advisory Committee guidelines were released in 2004 and that Little League Baseball did not adopt pitch counts until 2007.⁵ Since the adoption of these guidelines is relatively recent, their exposure to different age groups may have varied. Furthermore,

Table 2. Percent of correct answers for ages included in the USA Baseball Medical and Safety Advisory Committee pitching guidelines

Question	9-10 years	11-12 years	13-16 years
How many pitches should be thrown per GAME?	59.3%	40.0%	6.3%
How many pitches should be thrown per WEEK?	26.9%	46.9%	33.3%
How many pitches should be thrown per SEASON?	44.0%	46.9%	50.0%
How many pitches should be thrown per YEAR?	36.0%	28.1%	14.3%
TOTAL:	41.6%	40.5%	26.0%

the reading level of this survey is considered to be a Flesch-Kincaid Grade Level 4.4. Because of this, it is likely that parental assistance was necessary for younger players, particularly the eight years old and under group. Since the conditions in which the surveys were administered were not controlled, it is unknown how much outside assistance was offered to any age group. It is compelling to observe that 84.5% of respondents reported that they had never heard of the USA Baseball Medical and Safety Advisory Committee pitching guidelines but that 73% of coaches in a similar survey¹ reported that they adhered to them. This discrepancy could be due to the fact that the respondents from this study play in a different geographical region or that they were not familiar with the official name of the guidelines. Moreover, different guidelines are available and the authors did not determine which one(s) each athlete's respective organization(s) employed.

Additionally, risk factors for developing throwing related injuries were present in the current sample. When questioned about actions they would take in different scenarios, players indicated behaviors that are potentially hazardous. It is alarming to note that over half of the respondents reported that they would continue playing if they experienced an injury during a game (64.4%) or if they had a tired or sore arm during a game (61.1%). This contrasts with findings from youth coaches; where only 19% reported that they had players pitch with a tired or sore arm.¹ The current findings indicated further discontinuity on this topic; 74% of players reported

that they would tell their coach if they had a tired or sore arm during a game. These conflicting statistics could be attributed to a variety of reasons. Players and coaches surveyed were not from the same geographical region so attitudes and implementation of safety measures may differ. Perhaps players are aware that they should tell their coaches of a tired or sore arm but are not actually doing so. The majority (57.4%) of respondents stated that they would not see a doctor, physical therapist, nurse, or athletic trainer if they had a tired or sore arm during a game. It is crucial to address these findings; Kerut, Kerut, Fleisig, and Andrews stated that the risk for developing injuries requiring surgery increases by 3600% when players frequently pitch with a tired arm.⁶ In addition, respondents displayed some faulty beliefs about injury prevention that could lead to a lack of adherence to safe practices. The majority (62.1%) disagreed with the statement, "The more you throw, the more likely you are to get an injury". Further, the ankle was chosen more frequently than the elbow as the body part that was most likely to be injured when playing baseball.

This study has several limitations when interpreting these results. One limitation is several participants did not answer all questions or did not answer the questions correctly, which could be due to the fact that questions and answers and/or instructions may have been difficult for the young players to comprehend. Additionally, free response questions allowed for variable and vague answers. This made it difficult to discern how to categorize certain answers for

the purpose of scoring the survey. Some of the categories that were created were based on values seen in previous studies;^{1,2,6,8,9} others were created based off estimations. This same approach was adopted when classifying whether or not an answer was considered a “risk factor”.

Another limitation was the design of the study. This sample was a sample of convenience and there was a large nonresponse rate. All answers were based on each player's subjective opinion and knowledge. Additionally, the time frame allotted for each athlete to complete the survey is unknown. This could potentially explain why several surveys were not answered completely. Further, it is unknown if the athletes completed the survey independently or if other parties responded for them. It is possible that parents may have assisted the players in answering this survey, especially for the eight years old and under age group. As a result, the corresponding responses could reflect parental knowledge rather than the players'. Future studies are needed to control for these variables.

In the future, this survey should be edited and revised before it is administered again. This could enable better comprehension of the questions and instructions. Furthermore, it should be ensured that all surveys are administered in similar conditions to allow for ample time for completion and to verify that only the players are responding. To foster a greater response rate, reduce selection bias, and improve external validity, it may be beneficial to administer a survey when completing the mandatory documentation at team registration. Upon this administration, it would be imperative to control for outside assistance or to only administer to athletes who are able to read and comprehend the questions independently. Additionally, it would be advantageous to administer a similar survey to players, parents, and coaches from the same leagues. This would provide results with greater validity and would allow the ability to effectively elucidate gaps in knowledge. It would also be beneficial to assess the efficacy of educational interventions by healthcare providers so that intervention approaches can be adjusted as needed.

Overall, the results of this study highlight the need for educational interventions among youth baseball players. It is critical that players fully comprehend

the value of the safety guidelines and the importance of communicating with their coaches. As evidenced by the current findings, there is variability in the distribution of knowledge regarding these measures. Education for all involved with youth baseball is beneficial, however, there should be a particular focus on the youth players. Even if baseball organizations institute strict safety rules and coaches adhere to them, the prevalence of subjective risk factors can remain. Players may choose to not report factors such as arm fatigue or playing on multiple teams because they want to continue to play and may not understand the serious, long-term implications. Further, players may avoid seeking care from a healthcare provider for fear that they may be required to remain idle and will have to miss out on their seasons. Healthcare providers who have the opportunity to interact with this population should intervene and administer applicable educational interventions. While healthcare providers have access to ample amounts information regarding prophylactic care, athletes continue to be plagued with overuse injuries. Perhaps the delivery of educational interventions is the issue. It is possible that healthcare providers have cultivated an environment of fear of injury and this could be why athletes are keeping quiet. Potential barriers could be that athletes and parents do not understand the significance of the information, or are overwhelmed by it, or are not seeking healthcare for fear or being told to refrain from playing. Healthcare providers should consider catering messages of prevention in a way that is personalized for each individual athlete and situation rather than reciting the same general statements for everyone. Healthcare providers typically have the opportunity to learn the personalities and learning styles of the athletes they treat so they should carefully construct educational interventions according to each individual's specific needs. These interventions can be presented during clinic visits and through community outreach seminars. If greater strides are made by healthcare providers to educate youth baseball players, perhaps the incidence of throwing injuries can be reduced and, essentially, playing careers can be prolonged.

CONCLUSION

The results of this survey research suggest that young baseball players demonstrate the need for

education on the following topics: the USA Baseball Medical and Safety Advisory Committee throwing guidelines, risk factors for developing throwing-related injuries, the long-term implications of playing with an injured or fatigued arm, and the benefit of seeking medical help when fatigue or soreness is experienced in the throwing arm. Enhanced knowledge in these areas may empower young baseball players to take an active role in their own injury prevention.

REFERENCES

1. Fazarale JJ, Magnussen RA, Pedroza AD, Kaeding CC. Knowledge and Compliance With Pitch Count Recommendations: A Survey of Youth Baseball Coaches. *Sports Health*. 2012; 4(3): 202-204.
2. Fleisig GS, Andrews JR. Prevention of Elbow Injuries in Youth Baseball Pitchers. *Sports Health*. 2012; 4(5): 419-424.
3. Youth sports injury statistics. Stop Sports Injuries Website. www.stopsportsinjuries.org/media/statistics.aspx. date unknown. Accessed May 18, 2015.
4. Fleisig GS, Kingsley DS, Loftice JW, Dinnen KP, Ranganathan R, Dun S, Escamilla RF, Andrews JR. Kinetic Comparisons Among the Fastball, Curveball, Change-up, and Slider in Collegiate Baseball Players. *Am J Sports Med*. 2006; 34(3): 423-430.
5. Fleisig GS, Andrews JR, Cutter GR, et al. Risk of Serious Injury for Young Baseball Pitchers: A 10-Year Prospective Study. *Am J Sports Med*. 2011; 39(2):253-257.
6. Kerut EK, Kerut DG, Fleisig GS, Andrews JR. Prevention of Arm Injury in Youth Baseball Pitchers. *J La State Med Soc*. 2008; 160(2):95-98. <http://www.abe.msstate.edu/Tools/baseball/articles/Prevention%20of%20Arm%20Injury%20in%20Youth%20Baseball%20Pitchers.pdf>. Accessed March 11, 2013.
7. Olsen SJ, Fleisig GS, Dun S, Loftice J, Andrews JR. Risk Factors for Shoulder and Elbow Injuries in Adolescent Baseball Pitchers. *Am J Sports Med*. 2006; 34(6): 905-912.
8. USA Baseball Medical & Safety Advisory Committee Guidelines: May 2006. <http://www.massgeneral.org/ortho/services/sports/pdfs/usa-baseball-medical-position-statement.pdf>. Accessed March 11, 2013.
9. The Little League Pitch Count Regulation Guide for Parents, Coaches and League Officials. 2008. http://www.littleleague.org/Assets/old_assets/media/pitch_count_publication_2008.pdf. Accessed March 11, 2013.

APPENDIX 1

Instructions: Please answer the questions below as best as you can. You do not need to write your name on any of these papers.

Please answer these questions about yourself:

1. What is your age? _____
2. Please put a (X) next to the positions you play:
☐ Pitcher
☐ Catcher
☐ Infielder
☐ Outfielder
3. How many months during the past year did you play baseball? _____
4. How many baseball teams did you play on last year? _____
5. If you played on more than 1 team during the past year, can you name all the teams and write what type of a team it is?
For example: 1. Dodgers, AAU travel team
2. Lightning, Jonesville Little League

6. Do you ever play in showcases?
a. Yes b. No
7. If the answer is yes, please write how many in the past year _____
8. Did you play any other sports during the past year?
a. Yes b. No
9. Do your coaches know how many teams you play on?
a. Yes b. No
10. Did you ever have to miss any time playing baseball in the past year because you hurt yourself?
a. Yes b. No

11. If the answer was yes, how did you hurt yourself?

12. If you had to miss time playing baseball during the past year because you were hurt, how many days did you miss?_____

13. If you got hurt during a baseball game, what would you do?

a. Tell your coach?

i. Yes

ii. No

b. Tell your parent?

i. Yes

ii. No

c. Keep playing?

i. Yes

ii. No

d. Go see a doctor, physical therapist, nurse, or athletic trainer?

i. Yes

ii. No

14. If you had a tired or sore arm during a baseball game, what would you do?

a. Tell your coach?

i. Yes

ii. No

b. Tell your parent?

i. Yes

ii. No

c. Keep playing?

i. Yes

ii. No

d. Go see a doctor, physical therapist, nurse, or athletic trainer?

i. Yes

ii. No

15. Please circle whether or not you agree with this statement:

Baseball injuries can be prevented

a. Agree

b. Disagree

16. Have you heard of the USA Baseball Medical & Safety Advisory Committee pitching guidelines?

a. Yes

b. No

c. Maybe- it sounds familiar

17. Please circle if you agree or disagree with this statement:

The more you throw, the more likely you are to get an injury?

a. Agree

b. Disagree

18. Do you think there should be rules on the number of pitches a pitcher your age should be allowed to throw?

a. Yes

b. No

-
19. Which of these are more important to you?
- Throwing as fast as possible
 - Throwing with correct form

The next questions are about baseball injuries:

- Most injuries in baseball are:
 - Contact injuries (one player hits or crashes into another)
 - Non-contact injuries (an injury that does not involve another player)
- What body part are you *most likely* to hurt while playing baseball?
 - Ankle
 - Elbow
 - Knee
 - Back
- Can playing catcher put you at risk for hurting yourself?
 - Yes
 - No
- Can pitching can put you at risk for hurting yourself?
 - Yes
 - No

The next questions are about pitching counts. Please pick the answer that you think is best for players that are the same age as you.

- How many pitches are you supposed to throw per game?
 - 50
 - 75
 - 100
 - more than 100 is ok
- How many pitches are you supposed to throw per week?
 - 75
 - 100
 - 125
 - more than 125 is ok
- How many pitches are you supposed to throw per season?
 - 1000
 - 2000
 - 3000
 - 4000
- How many pitches are you supposed to throw per year?
 - 1000
 - 2000
 - 3000
 - 4000
- Do you think other players (or their parents or coaches) count the number of pitches they throw?
 - Yes
 - No

Please answer the questions below only if you pitch. If you are not sure of an exact number, please write your best guess.

1. Do you or does someone at your games count how many pitches you throw?
 - a. Yes
 - b. No

2. If someone keeps track of how many pitches you throw, how often does the person do it?
 - a. Every game
 - b. Most games
 - c. Some games
 - d. Never

3. In the past year, what is the total number of months you pitched?_____

4. In the past year, how many games did you pitch in? _____

5. In the past year, how many pitches did you throw per game?_____

6. In the past year, how many days did you rest after pitching in a game?_____

7. Please write the types of pitches that you throw and who taught you how to throw them.
